REPORT NO. 79-3-5

FOREST INSECT AND DISEASE MANAGEMENT UNIT
U.S. FOREST SERVICE
DORAVILLE, GEORGIA

REPORT OF AERIAL DETECTION SURVEY

LAND OWNERSHIP OR SURVEY AREA: Cottonwood Plantations Along the Mississippi River

STATES: Mississippi, Louisiana, Arkansas

AREA WITHIN SURVEY BOUNDARY: 42,700 acres

DATE: 10/24-27/78

PERCENT COVERAGE: 100%

AIRCRAFT: Cessna 182

CREW: W. A. Carothers, B. I. Hammond

REPORT PREPARED BY: W. A. Carothers

SURVEY OBJECTIVES: To estimate the degree of defoliation occurring in cottonwood (*Populus deltoides*) plantations along the Mississippi River, during the fourth generation of poplar tentmaker (*Icthyura inclusa* Hbn.).

SURVEY RESULTS

Thirty-six cottonwood plantations were surveyed during 10/24-27/78 (refer to maps). Fifteen of these plantations had not been surveyed previously (refer to Report No. 79-3-4). Defoliation between plantations varied from undetectable to 95% In general, the plantations showed thinning crowns, off color foliage and defoliation (refer to table).

CONCLUSIONS

Defoliation caused by poplar tentmaker larvae, drought, disease pathogens or other agents occurred in the survey area during 1978. Tree mortality may result in the more severely defoliated plantations. A cooperative biological evaluation between State Forestry organizations of Arkansas, Mississippi and Louisiana and USDA Forest Service Forest Insect and Disease Management and Southern Forest Experiment Station personnel will be conducted in the spring of 1979.

For any additional information, Contact:

Forest Insect and Disease Management Unit, S&PF
USFS - Southeastern Area

Northgate Office Park
3620 Interstate 85, N.E.
Doraville, GA 30340
Telephone: 404-221-4796

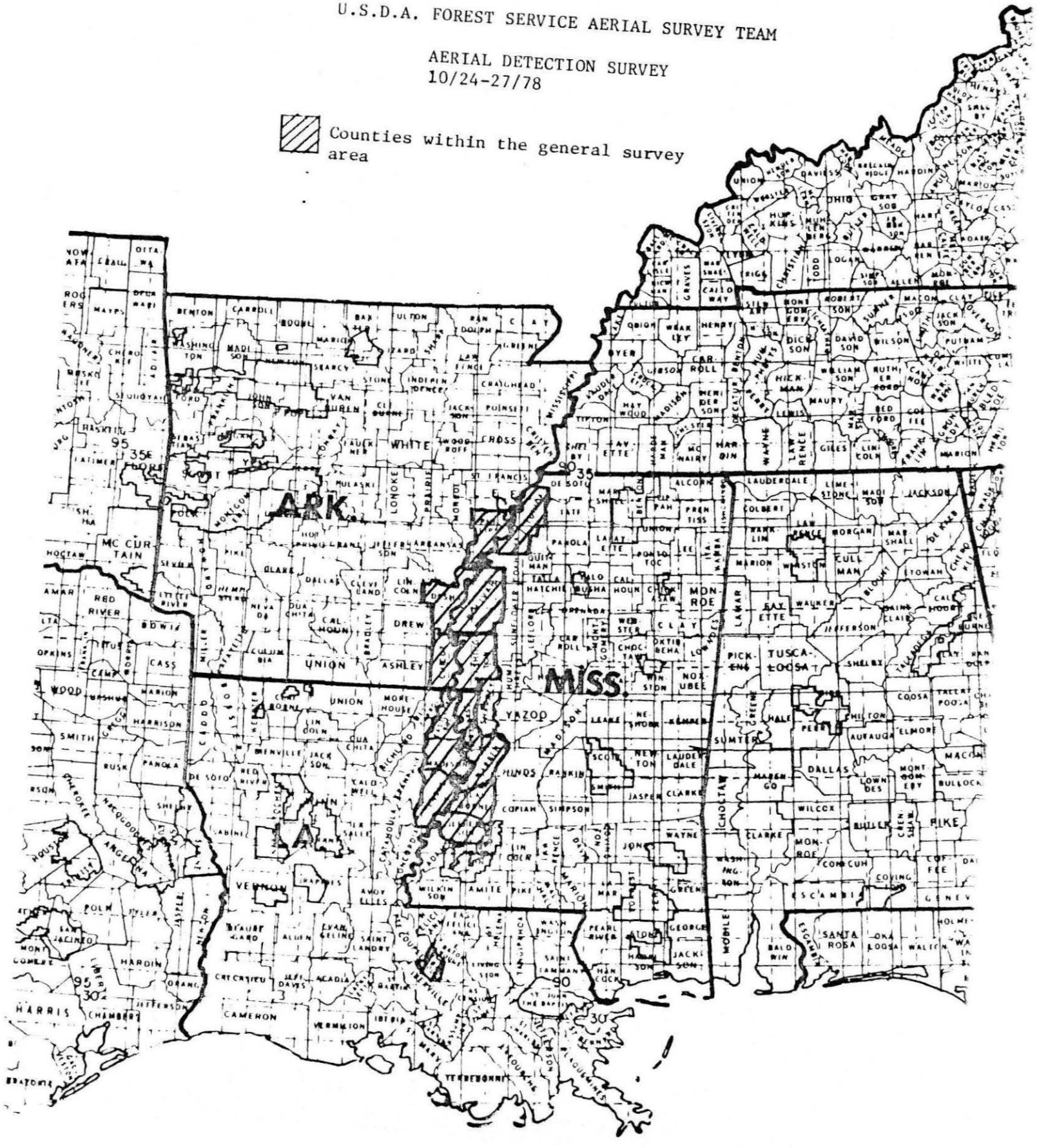
or

2500 Shreveport Highway
Pineville, LA 71360
Telephone: 318-445-6511

U.S.D.A. FOREST SERVICE AERIAL SURVEY TEAM

AERIAL DETECTION SURVEY
10/24-27/78

Counties within the general survey area


ARK.
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LA.
WHITE
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DREW
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RED RIVER
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RUSK
HARDIN
ANGELINA
SABINE
VERNON
CALCASIEU
CAMERON
JEFFERSON
CHAMBERS
HARRIS
YAZOO
MONROE
TUSCALOOSA
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PERRY
DALLAS
MARENGO
WILCOX
CLARKE
WASHINGTON
MOBILE
BALDWIN
ESCAMBIA
SANTA ROSA
OKALOOSA
WALTON
PIKE
AMITE
WILKINSON
FRANKLIN
JEFFERSON DAVIS
ACADIA
VERMILION
IBERIA
TERREBONNE
LAFOURCHE
ST. MARY
ST. MARTIN
LAFAYETTE
VERMILION
CALHOUN
CHOCTAW
WEBSTER
CLAY
OKTIBBEHA
LOWNDES
NOXUBEE
KEMPER
NEWTON
LAUDERDALE
JASPER
SCOTT
RANKIN
SIMPSON
COPIAH
HINDS
WARREN
ISSAQUENA
SHARKEY
HUMPHREYS
LEFLORE
CARROLL
MONTGOMERY
GRENADA
YALOBUSHA
PANOLA
TATE
DESOTO
TUNICA
QUITMAN
COAHOMA
TALLAHATCHIE
LAFAYETTE
MARSHALL
BENTON
TIPPAH
ALCORN
PRENTISS
TISHOMINGO
LEE
PONTOTOC
UNION
NEW ALBANY
PONTOTOC
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MONROE
CHICKASAW
LOWNDES
OKTIBBEHA
WINSTON
NOXUBEE
KEMPER
NESHOBA
LAUDERDALE
NEWTON
SCOTT
RANKIN
SIMPSON
COPIAH
LINCOLN
LAWRENCE
FRANKLIN
WILKINSON
AMITE
PIKE
WALTHALL
MARION
LAMAR
FORREST
PERRY
GREENE
GEORGE
JACKSON
HANCOCK
PEARL RIVER
STONE
HARRISON
JACKSON
CLARKE
WAYNE
JONES
JEFFERSON DAVIS

Table 1. Degree of Defoliation Detected on Aerial Survey of Cottonwood Plantations Along the Mississippi River October 24-27, 1978.

Plantation No.	Degree of Defoliation[1/]	Comments
1	20% - 90%	Defoliation scattered through plantation
2	0%	
3	90%	Scattered - Previous ground survey indicated low poplar tentmaker population, but high incidence of leaf disease.
4	50% - 75%	Uniform throughout
5	50% - 80%	Scattered
6	20% - 60%	20% in southwest corner. 60% in remainder.
7	0% - 30%	Light defoliation
8	40%	Ground survey failed to detect poplar tentmaker larvae. Drought is suspected of causing the defoliation.
9	70%	Ground survey failed to detect poplar tentmaker larvae. Drought is suspected of causing the defoliation.
10	0% - 95%	Undetectable on south end. 50%-95% on the north end.
11	30% - 75%	75% defoliation in nursery stock. 30% in remainder of plantation.
12	0%	
13	0% - 30%	
14	0% - 80%	Undetectable except for 80% defoliation in small area of the plantations southwest corner
15	0%	
16	0% - 90%	Scattered throughout
17	50%	Uniform defoliation throughout
18	0% - 95%	Approximately 1/3 of plantation 95% defoliated

Plantation No.	Degree of Defoliation[1/]	Comments
19	0%	
20	0%	
21	0%	Foliage color orange due to "leaf rust."
22	0%	Foliate color orange due to "leaf rust."
23	0%	
24	0%	
25	0%	
26	0%	
27	30%	Light defoliation throughout
28	0%	
29	0%	
30	0%	
31	0%	
32	0%	
33	0%	
34	0%	
35	90%	Thin crowns
36	0%	

1/ This is the percent defoliation of individual trees in the plantations.

APPENDIX II

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

ANGER

RD

SA

2140 Pesticide Use Management February 16, 1979

SUBJECT: Use of Sevin 80% to Control Poplar Tent Maker on Cottonwood

TO: Forrest Oliveria
Southern Hardwoods Laboratory
Stoneville, Mississippi

The basis for recommending the use of Sevin 80% to control poplar tent maker (PTM) on cottonwood is found in Section 2 (c) of the Federal Pesticide Act of 1978 (PL 95-396) which states that "the term 'to use any registered pesticide in a manner inconsistent with its labeling' means to use any registered pesticide in a manner not permitted by the labeling: Provided, that the term shall not include; .....(2) applying a pesticide against any target pest not specified on the labeling if the application is to the crop, animal, or site specified on the labeling, unless the Administrator has required that the labeling specifically state that the pesticide may be used only for the pests specified on the labeling after the Administrator has determined that the use of the pesticide against other pests would cause an unreasonable adverse effect on the environment."

Using this statement as a guide, the Sevin 80% made by Union Carbide (EPA Reg. No. 1016-43) can be used without a 24C registration since the label permits control of insects in forest situations, which is the PTM site, using the same rate (1 1/4 pounds per acre) you recommend for control of PTM. In addition, I talked to EPA enforcement personnel in Atlanta and Dallas, and both offices agreed with my interpretation.

Please contact us if we can be of any further assistance to you.

John W. Taylor Jr.

JOHN W. TAYLOR, JR., Ph.D.
Chemical Coordinator

U.S.D.A. FOREST SERVICE AERIAL SURVEY TEAM

COTTONWOOD DEFOLIATION SURVEY
10/24-27/78

▲ COTTONWOOD PLANTATION (location approximate)

▲1

▲2

▲3

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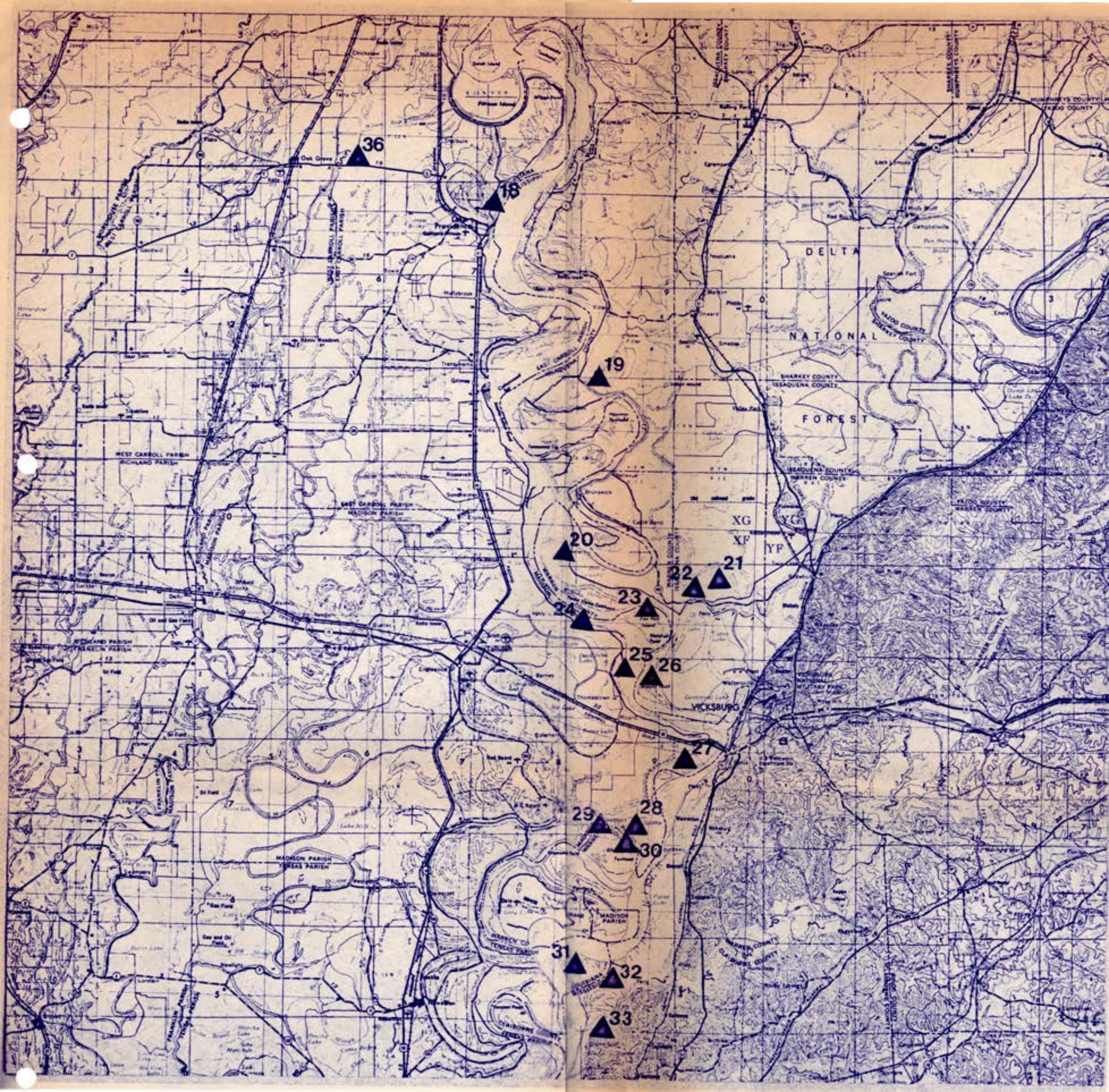
GREENVILLE
LINCOLN COUNTY
DESHA COUNTY
CHICOT COUNTY
ASHLEY COUNTY
DREW COUNTY
BOLIVAR COUNTY
WASHINGTON COUNTY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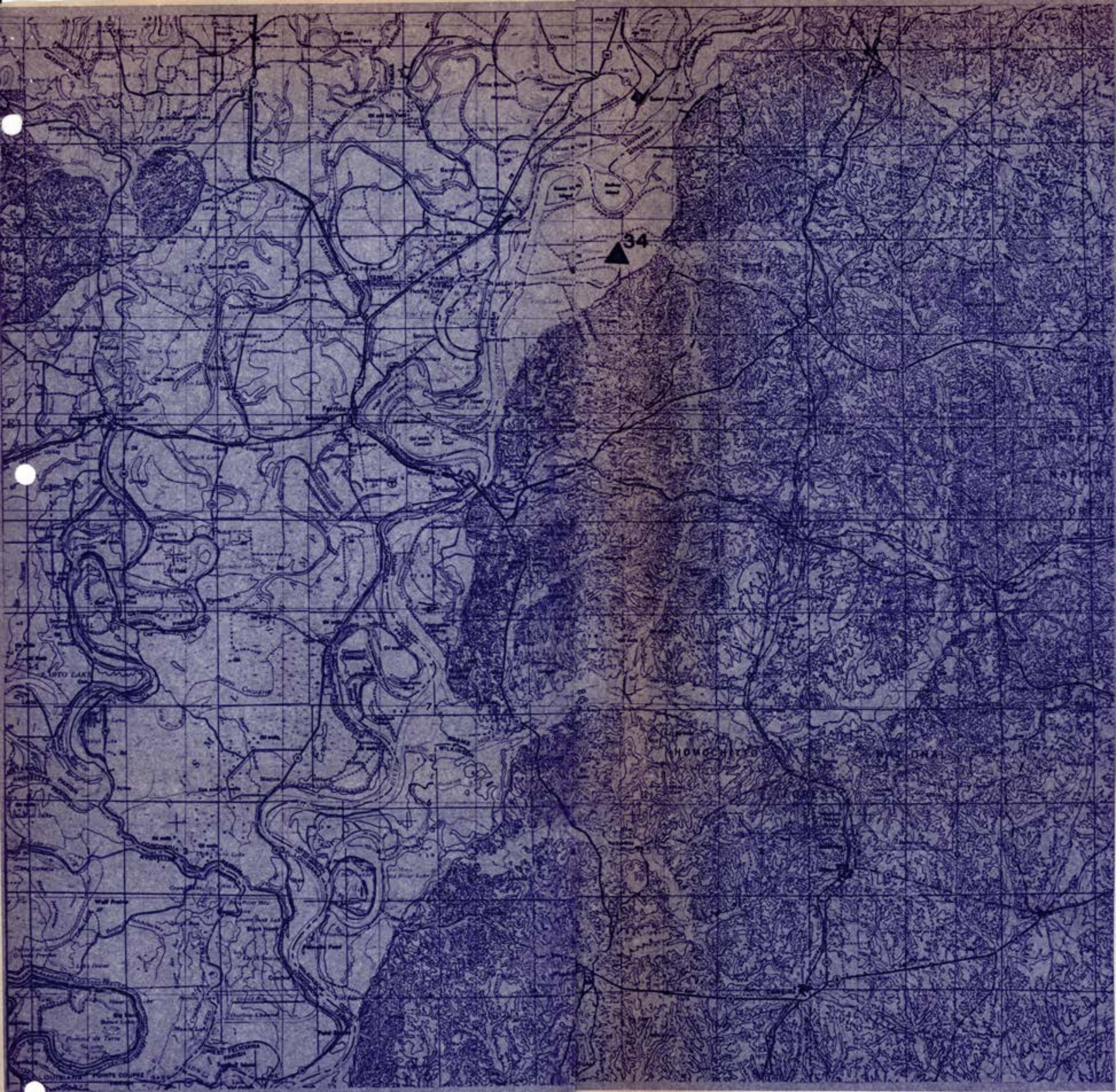
DELTA
NATIONAL
FOREST
VICKSBURG
XG
XF
YG
YF
WEST CARROLL PARISH
RICHLAND PARISH
EAST CARROLL PARISH
MADISON PARISH
FRANKLIN PARISH
TENSAS PARISH
SHARKEY COUNTY
ISSAQUENA COUNTY
WARREN COUNTY
YAZOO COUNTY
HUMPHREYS COUNTY
CLAIBORNE COUNTY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LOUISIANA
UNIVERSITY
CATAHOULA
LAKE
LITTLE
NATCHEZ
FOREST
NATIONAL
FOREST
POINTE COUPEE

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THE ISLAND
BATON ROUGE
MERIDIAN